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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,495	03/21/2001	Daniel B. Baer	LBRE:034	4599

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EXAMINER
CIRIC, LJILJANA V

ART UNIT	PAPER NUMBER
3743	

DATE MAILED: 10/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/814,495	Baer
Examiner	**Art Unit**
Ljiljana V. Ciric LVC	3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jul 31, 2002*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above, claim(s) *none* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-17* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *Jul 31, 2002* is/are a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *5, 6*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of the species or embodiment of Figure 8, readable on claim 1 through 17, in Paper No. 8 is acknowledged. No claims stand withdrawn from consideration as a result of the election.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the various types of fans recited in each of claims 4 and 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because of the following minor informalities: the reference lines corresponding to each of reference numbers 60 and 70 in Figure 2 do not point directly to the elements associated with each of these reference numbers, i.e., the cooling fins and cooling tubes, respectively; the reference line corresponding to reference number 60 in Figure 3 does not point directly to the cooling fins associated therewith; and, in Figure 8, reference number 220, which is identified as corresponding to the rack in the specification [page 11, line 25], has a

corresponding reference line pointing to cooling apparatus 250, instead of to a rack. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because it does not comprise a concise statement summarizing the construction and steps associated with the inventive apparatus and method, respectively. Instead, it repeats information provided in the title, refers to the purported merits of the invention, and does not avoid using phrases which can be implied, i.e., "The present invention is directed to." Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: the sentence beginning with "Because the air is always contains" [page 9, lines 8-10] is generally incomprehensible as written.

Appropriate correction is required.

6. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: there appears to be no antecedent basis in the specification for the term "refrigerated liquid" appearing in at least claims 8, 11, 13, and 16.

Claim Rejections - 35 U.S.C. § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1 through 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, for example, recites the limitation "said enclosure" in each of lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim. Please note that while "for an enclosure" appears as an intended-use recitation in line 1 of the claim, there is no explicit recitation of an enclosure prior to the limitation "said enclosure" in each of lines 3 and 4 to provide proper antecedent basis for this limitation. Recommend replacing the limitation "said enclosure" with "the enclosure". At least claims 5, 7, and 15 also contain numerous occurrences of the limitation "said enclosure" without proper antecedent basis, and are thus similarly rendered indefinite thereby.

With regard to claim 5 as written, it is not clear what exactly is meant by the limitation "wherein said heat exchanger and said fan *attach to* said enclosure", thereby rendering the claim indefinite with regard to the intended scope of protection sought. Is this limitation used to mean that the heat exchanger and the fan are actually attached to the enclosure or to merely mean that these elements are attachable to the enclosure?

With regard to claim 7 as written, the limitations "modulating said valve to said temperature of said air exiting said enclosure a temperature approximately equal to the air in the environment" are unclear as written, thereby rendering the claim indefinite. Aside from some words potentially missing from the aforementioned limitations, thus rendering the same generally

incomprehensible, the term "approximately" is a relative term which further renders the claim indefinite. The term "approximately" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Thus, as used to describe the temperature, this term renders the same indeterminate. Finally, the same limitations as written apparently attempt to equate two disparate elements, namely a temperature and the air in the environment, thereby even further contributing to the indefiniteness of the claim. One temperature could be equated or compared to another temperature, but not to the material which is at a the one temperature.

Like claim 7 as described in greater detail above, each of claims 12, 13, and 17 also contains the relative term "approximately", thus similarly rendering these claims indefinite with regard to the scope of protection sought.

With regard to claim 8 as written, the limitations "an air inlet for admitting air from an environment containing said enclosure said air absorbing heat from said equipment" are not readily comprehensible as written. Are several words or merely a comma after "said enclosure" missing?

Also with regard to claim 8 as written, the term "a refrigerated liquid" is not clear, thereby rendering indefinite the scope of protection sought by claim 8 and by claims 9 through 12 depending therefrom. Is this term really intended to refer to a refrigerated liquid or to a refrigerant liquid? Note that any liquid may be a refrigerated liquid if it is subjected to

refrigeration, whereas only some liquids have desirable refrigerant properties. At least claims 11, 13, and 16 also recite the term "a refrigerated liquid", thereby further rendering indefinite claim 13 and claim 14 depending therefrom as well as claim 16 and claim 17 depending therefrom, respectively.

Claim 12, for example, recites the limitation "said heat exchange" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim. There would be sufficient antecedent basis for the limitation "said heat exchanger".

With regard to claim 17 as written, the limitation "so as to regulate a temperature of said air returned to said environment at a temperature approximately equal to a temperature of said environment," thereby rendering the claim indefinite with regard to the metes and bounds of protection sought. For example, both the returned air and the environment are expected to be inherently at a given temperature; therefore, if these are the temperatures being referred to by these limitations, recommend replacing each occurrence of "a temperature" with "the temperature" in this claim. If, however, the limitation "a temperature" is used in each case to refer to one of many temperatures of each of the return air and of the environment, for example, then, absent more precise identification of which particular temperatures are being referred to, the scope of the claim is indeterminate.

The above is an indicative, but not necessarily an exhaustive, list of 35 U.S.C. 112, second paragraph, problems. Applicant is therefore advised to carefully review all of the claims for

additional problems. Correction is required of all of the 35 U.S.C. 112, second paragraph problems, whether or not these were particularly pointed out above.

Claim Rejections - 35 U.S.C. § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

10. As best can be understood in view of the indefiniteness of the claims, claims 1 through 3, 5, 8, 9, and 13 through 16 are rejected under 35 U.S.C. 102(b) as being anticipated by *Parmerlee et al. (of record).*

Parmerlee et al. discloses the invention essentially as claimed, including: an enclosure or housing 31; an air-to-liquid comprising side plates 13 and 14 with flow-through holes 16 through which a coolant flows and with coils 45 and 46; and air vents or slots 18.

The reference thus reads on the claims.

11. Alternately for claims 1 and 3 and as best can be understood in view of the indefiniteness of the claims, claims 1, 3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by *Cowans.*

Cowans discloses cooling system essentially as claimed, including an air-to-liquid heat exchanger or subcooler system 20, a fan in fan system 72, and a valve 52.

The reference thus reads on the claims.

12. Alternately for claims 1, 3, 6, 8, 9, and 13 through 16 and as best can be understood in view of the indefiniteness of the claims, claims 1, 3, 6, 8, 9, 11, and 13 through 16 are rejected under 35 U.S.C. 102(e) as being anticipated by *Chu et al.*

Chu et al. discloses cooling system essentially as claimed, including an enclosure 30', air inlet 95, air outlet 96, an air-to-liquid heat exchanger 90, a fan 91, and a modulating valve 117. Fan motor 92 is a piece of heat-producing equipment.

The reference thus reads on the claims.

Claim Rejections - 35 U.S.C. § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. As best understood in view of the indefiniteness of the claims, claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Parmerlee et al. (of record)*.

As noted in greater detail above, *Parmerlee et al.* discloses the invention essentially as claimed, except for not necessarily identifying fans 41 and 42 as being of a particular type. Nevertheless, as noted by applicant in the instant disclosure [page 10, lines 3-14], various types of fans are known equivalents in the art, with each having particular art-known characteristics which may make one particular type slightly more desirable than another in a given application. Thus, it is hereby reiterated that the choice of fan type is a matter of design choice well-known in the art, and that it would have been obvious to one skilled in the art at the time of invention to modify the electronic cooling arrangement of *Parmerlee et al.* by selecting that type of fan which is best suited to a particular set of design constraints (such as cost, efficiency, space requirements, noise, throughput, and power consumption levels) for a given application.

15. The non-application of art against claims 7, 12, and 17 should not be construed as an indication that the claims contains allowable subject matter but rather that the claims could not be examined on the merits due to indefiniteness.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Roush et al.*, *Koltuniak et al.*, *Hosaka*, *Voss*, *Harvey*, *Cunningham et al.*, *Behl et al.*, *Rumbut, Jr.*, *Trudeau et al.*, and *Kals* each discloses a cooling system for an enclosure including heat-producing equipment.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric, whose telephone number is (703) 308-3925. While she works a flexible schedule that varies from day to day and from week to week, Examiner Ciric may generally be reached at the Office during the work week between the hours of 10 a.m. and 6 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett, can be reached on (703) 308-0101. The fax phone number is (703) 305-3463.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

lvc

October 18, 2002

LJILJANA V. CIRIC
PRIMARY EXAMINER
ART UNIT 3743